said gate electrode, wherein said first insulating film is formed with a substantially uniform thickness.

REMARKS

At the time of the Office Action dated May 23, 2002, claims 1-20 were pending in this application. Of those claims, claims 1-11 have been rejected and claims 12-20 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). Claim 1 has been amended, and claim 2 has been cancelled. Care has been exercised to avoid the introduction of new matter. Specifically, claim 1 has been amended by incorporating the limitations of claim 2 therein, and consequently, claim 2 has been cancelled. Claim 1 has also been amended to recite that a first insulating film is formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode, consistent with the originally filed disclosure, for example, in page 15, lines 14-18 and Fig. 1. Applicants submit that the present Amendment does not generate any new matter issue.

Claims 2 and 7 are rejected under the second paragraph of 35 U.S.C. § 112

In the second page of the statement of the rejection, the Examiner asserted that the use of the word "substantially" in claims 2 and 7 renders the claimed invention indefinite. This basis for the rejection is respectfully but vigorously traversed.

Indefiniteness under the second paragraph of 35 U.S.C. 112 is a question of law. **Tillotson Ltd. v. Walbro Corp.**, 831 F.2d 1033, 4 USPQ2d 1450 (Fed. Cir. 1987). Accordingly, in rejecting a claim under the second paragraph of 35 U.S.C. 112, the Examiner is

required to discharge its initial burden by providing a basis in fact and/or cogent reasoning to support the ultimate legal conclusion that one having ordinary skill in the art, with the supporting specification in hand, would not be able to reasonable ascertain the scope or protection defined by the claim. **In re Cartwright**, 49 USPQ 2d 1464. Consistent judicial precedent holds that reasonable precision in light of the particular subject matter involved is all that is required by the second paragraph of 35 U.S.C. 112. **Miles Laboratories, Inc. v. Shandon, Inc.**, 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993); **North American Vaccine, Inc. v. American Cyanamid Co.**, 7 F.3d 1571, 28 USPQ2d 1333 (Fed. Cir. 1993); **U.S. v. Telectronics Inc.**, 857 F.2d 778, 8 USPQ2d 1217 (Fed. Cir. 1988); **Hybritech, Inc, v. Monoclonal Antibodies, Inc.**, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986). Applicants would also stress that a patent specification must be viewed through the eyes of one having ordinary skill in the art. **Miles Laboratories, Inc. v. Shandon, Inc.**, supra.

In applying the above legal tenets the exigencies of this case, Applicants submit that one having ordinary skill in the art would not have been befuddled by the use of the word "substantially," particularly as employed in the context of the claimed invention. Specifically, one having ordinary skill in the art would recognize that the word "substantially" merely recognizes that the thickness of the recited layer is not perfectly uniform to the nth degree, as recited in claim 2 (now claim 1) or that the lateral length of the first insulating film is exactly equal to the sum of the thicknesses of the first and second insulating films to the nth degree, as recited in claim 7. In other words, the use of the word "substantially" is consistent with judicial recognition that absolutism in nature is elusive. Thus, the use of the word "substantially" is ubiquitous in patent claims and specifications and has been judicially approved in recognition of

the elusiveness of absolute perfection. See **Andrew Corp. v. Gabriel Electronics, Inc.**, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988).

It should, therefore, be apparent that one having ordinary skill in the art would not have difficulty understanding the scope of the claimed invention, particularly when reasonably interpreted in light of the supporting of the specification. **Andrew Corp. v. Gabriel Electronics, Inc.**, supra. Applicants, therefore, respectfully submit that the imposed rejection of the claims under the second paragraph of 35 U.S.C. 112 is not legally viable and, hence, solicit withdrawal thereof.

Claims 1-7 are rejected under 35 U.S.C. § 102(b) for lack of novelty as evidenced by either Oda, U.S. Patent No. 5,472,890, or Yamane et al., U.S. Patent No. 5,675,167 (hereinafter Yamane)

On page two of the statement of the rejection, the Examiner asserted that either Oda or Yamane discloses a semiconductor device corresponding to that claimed. This rejection is respectfully traversed.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that one having ordinary skill in the art would have recognized that the identically claimed invention is within the public domain. **ATD Corporation v. Lydall, Inc.**, 159 F.3d 534, 48 USPQ2d 1321 (Fed. Cir. 1998); **Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.**, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Furthermore, the Examiner is burdened to identify wherein an

applied reference identically discloses each feature of the claimed invention. **In re Rijckaert**, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); **Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). This burden has not been discharged.

Initially Applicants note that claim 1 has been amended to recite that a first insulating film is formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode. In contrast, the silicon oxide film 126 or the silicon nitride film 136 of Oda, which the Examiner asserts corresponds to the claimed first insulating film, are formed on the whole area of the substrate 101 except for the area in which tungsten plugs 114 are formed (see Fig. 2). As such, Oda fails to identically describe all the features of the claimed invention, because the silicon oxide film 126 or silicon nitride film 136 of Oda are not formed only in the vicinity of a gate electrode.

Similarly, Yamane also fails to identically disclose that a first insulating film is formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode. Film 14, which is indicated by the Examiner to disclose the claimed first insulating film, covers the whole area of the substrate 11 except for the area in which source/drain electrodes 19a, 19b are formed (see Figs. 2C, 2D). As such, Yamane fails to identically describe all the features of the claimed invention, because the film 14 of Yamane is not formed only in the vicinity of a gate electrode.

On page three of the statement of the rejection, the Examiner stated:

> Regarding the respective thickness as in claims 4-7 such would have been met by showing in the figures as delineated wherein the relative thickness are substantially shown or alternatively, it would have been obvious to one skilled in the art that such limitations would have been obvious over the showing therein.

Regarding the first part of the Examiner's statement (i.e., "Regarding the ... are substantially shown"), Applicants are at a loss to understand exactly what is being asserted by the Examiner. Notwithstanding the Examiner's ambiguity in the statement of the rejection, neither Oda nor Yamane disclose the thickness of a second insulating film on sidewall of a gate electrode being smaller than the thickness of the second insulating film on a top surface of the gate electrode, in addition to the thickness of the second insulating film on the sidewall of the gate electrode being smaller than the thickness of the second insulating film on the surface of a semiconductor device, as presented in claim 5. Both Oda and Yamane are completely silent as to the relative thickness of the first and second insulating films. As such, one having ordinary skill in the art would not have recognized that the claimed invention, as recited in claim 5, is within the public domain within the meaning of 35 U.S.C. § 102.

Claim 6 recites that the thickness of the second insulating film on the top surface of the gate electrode is smaller than the thickness of the second insulating film on the surface of said semiconductor device. As previously discussed, both Oda and Yamane are completely silent as to the relative thickness of the first and second insulating films. As such, one having ordinary skill in the art would not have recognized that the claimed invention, as recited in claim 6, is within the public domain.

In the second part of the Examiner's statement, the Examiner argued that such limitations "would have been obvious to one skilled in the art." Although not explicitly stated, the Examiner is apparently making an alternative rejection of claims 5-7 under 35 U.S.C. § 103 for obviousness predicated upon either Oda or Yamane. The Examiner, however, has not discharged the initial

burden of establishing a prima facie basis to deny patentability to the claimed invention under 35 U.S.C. § 103. **In re Mayne**, 104 F.3d 1339, 41 USPQ2d 1451 (Fed. Cir. 1997); **In re Oetiker**, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to identify a source in the applied prior art for: (1) claim limitations; and (2) the motivation to combine references or modify a reference in the reasonable expectation of achieving a particular benefit. **Smiths Industries Medical System v. Vital Signs Inc.**, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999). In so doing, it is legally erroneous to ignore any claim limitation. **Uniroyal, Inc. v. Rudkin-Wiley Corp.**, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

As previously stated, the Examiner has failed to establish that either Oda or Yamane identically disclose all of the claim limitations. Furthermore, the Examiner has not provided any motivation modify Oda or Yamane to arrive at the claimed invention. As such, the Examiner has failed to establish a prima facie for obviousness.

As a reminder to the Examiner regarding the disclosure of the relative thicknesses of the first and second insulating films, the Examiner is referred to M.P.E.P. § 2125, which states "PROPORTION OF FEATURES IN A DRAWING ARE NOT EVIDENCE OF ACTUAL PROPORTIONS WHEN DRAWINGS ARE NOT TO SCALE". It is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue." **See, Hockerson-Halberstadt, Inc. v. Avia Group Int'l**, 222 F.3d 951, 55 USPQ2d 1487 (Fed. Cir. 2000). Therefore, unless the specification indicates that the drawings define the precise proportions of the element or that a

precise relationship is disclosed within the specification, the Examiner is not free to assert that differences shown in the drawings support the Examiner's assertion that a particular reference discloses the claimed relative thicknesses of the first and second insulating films, as recited in the claims.

Furthermore, if the Examiner is to assert that the claimed relative thickness of the first and second insulating films are inherently shown by a particular reference, the Examiner is reminded that inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. **In re Robertson**, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999); **In re Rijckaert, supra**; **In re Oelrich**, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). Instead, the missing element must necessarily result from the prior art reference. **Continental Can Co. USA v. Monsanto Co.**, 20 USPQ 2d 1746 (Fed. Cir. 1991); **Ex parte Levy**, 17 USPQ2d 1461 (BPAI 1990).

The above argued differences between the semiconductor device defined in the claims and the devices of Oda and Yamane undermine the factual determination that Oda or Yamane identically describes the claimed invention within the meaning of 35 U.S.C. § 102. **Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.**, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); **Kloster Speedsteel AB v. Crucible Inc.**, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). Applicants, therefore, respectfully submit that the imposed rejection of claims 1 and 3-7 under 35 U.S.C. § 102 for lack of novelty as evidenced by Oda or Yamane is not factually viable and, hence, solicit withdrawal thereof.

Claim 8 is rejected under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of JP 11-274300 (hereinafter Otani)

On page three of the statement of the rejection, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the semiconductor device of Oda or Yamane in view of Otani to arrive at the claimed. This rejection is respectfully traversed.

Claim 8 depends ultimately from independent claim 1, and Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Oda or Yamane. Specifically, neither Oda nor Yamane disclose or suggest a first insulating film being formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode, as recited in claim 1. The secondary reference to Otani does not cure the argued deficiencies of Oda and Yamane. Accordingly, the proposed combination of references would not yield the claimed invention. **Uniroyal, Inc. v. Rudkin-Wiley Corp., supra**. Applicants, therefore, respectfully submit that the imposed rejection of claim 8 under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of Otani is not viable and, hence, solicit withdrawal thereof.

Claims 9 and 11 are rejected under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of Ohno, U.S. Patent No. 5,621,232

On pages three and four of the statement of the rejection, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the semiconductor device of Oda or Yamane in view of Ohno to arrive at the claimed. This rejection is respectfully traversed.

Claims 9 and 11 depend ultimately from independent claim 1, and Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Oda or Yamane. Specifically, neither Oda nor Yamane disclose or suggest a first insulating film being formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode, as recited in claim 1. The secondary reference to Ohno does not cure the argued deficiencies of Oda and Yamane. Accordingly, the proposed combination of references would not yield the claimed invention. **Uniroyal, Inc. v. Rudkin-Wiley Corp.**, **supra**. Applicants, therefore, respectfully submit that the imposed rejections of claims 9 and 11 under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of Ohno is not viable and, hence, solicit withdrawal thereof.

Claim 10 is rejected under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of Braeckelmann, et al., U.S. Patent No. 5,621,232 (hereinafter Braeckelmann)

On page four of the statement of the rejection, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the semiconductor device of Oda or Yamane in view of Braeckelmann to arrive at the claimed. This rejection is respectfully traversed.

Claim 10 depends ultimately from independent claim 1, and Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Oda or Yamane. Specifically, neither Oda nor Yamane disclose or suggest a first insulating film being formed in a specific range of a semiconductor substrate only in the vicinity of a gate electrode, as recited in claim 1. The secondary reference to

Braeckelmann does not cure the argued deficiencies of Oda and Yamane. Accordingly, the proposed combination of references would not yield the claimed invention. **Uniroyal, Inc. v. Rudkin-Wiley Corp.**, **supra**. Applicants, therefore, respectfully submit that the imposed rejection of claim 10 under 35 U.S.C. § 103 for obviousness predicated upon Oda or Yamane in view of Braeckelmann is not viable and, hence, solicit withdrawal thereof.

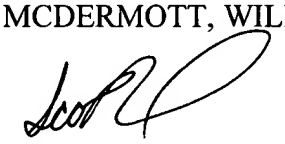
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. However, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. Accordingly, and in view of the foregoing remarks, Applicants hereby respectfully request reconsideration and prompt allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417, and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY



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Version with markings to show changes made

Please amend claim 1 as follows:

1. (Amended) A semiconductor device comprising:

a gate electrode formed on a semiconductor substrate through a gate insulating film;

a pair of impurity diffusion layers formed on the surface region of said semiconductor substrate at both sides of said gate electrode; and

a first insulating film formed so as to cover the sidewalls of said gate electrode, and to extend to the surface area of a specific range of said semiconductor substrate only in the vicinity of said gate electrode, wherein said first insulating film is formed with a substantially uniform thickness.